

QUEST

ADVENTURES IN THE WORLD OF SCIENCE

DESERTS

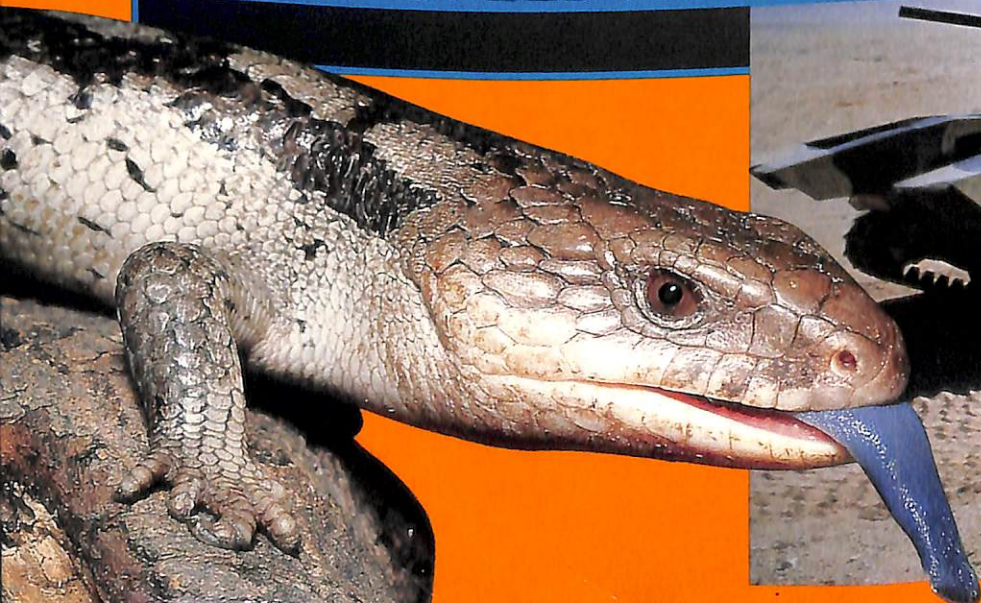
52

FACT FILES ON:

- ▶ War machines
- ▶ Desert life
- ▶ Antarctica
- ▶ Mining
- ▶ Arid planets
- ▶ How dunes are made
- ▶ Shifting sands

MODEL: SCORPION

GIANT POSTER: RECORD SPEED ATTEMPT



THREE PROJECTS

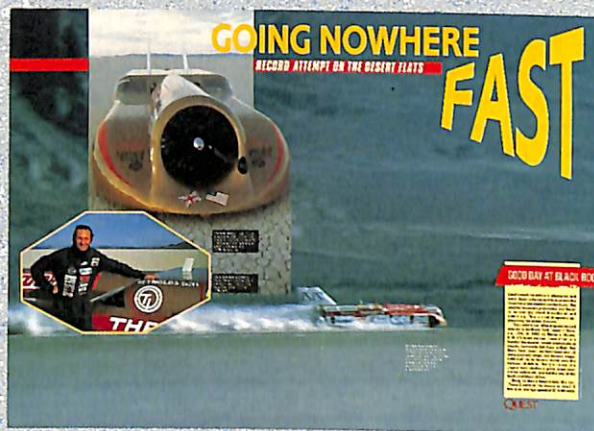
INSIDE THIS PACK

FACT FILES

- Desert warfare ► The advancing desert
- Barren lands on other planets ► Digging wealth from the wastelands
- Antarctica: the land of ice
- The desert environment



MODEL Scorpion



POSTER

Desert record breakers

PROJECT SHEET



COMING IN QUEST 53 CHALLENGES



FACT FILES INCLUDE:

- Facing extremes
- Crazy races
- Dragsters
- Racing animals
- Exercise in Space
- Hi-tech training
- Weird feats



MODEL
Monster jeep



POSTER

The ski devils

ISSN 1350-3766





PROJECTS

DESERTS

Succulents are plants found in hot, dry deserts. Cacti are succulents native to North and South America.

GROW A CACTI GARDEN

1 2 3 4 5

If your cacti are to thrive, you must grow them in an environment that is as close as possible to their natural habitat.

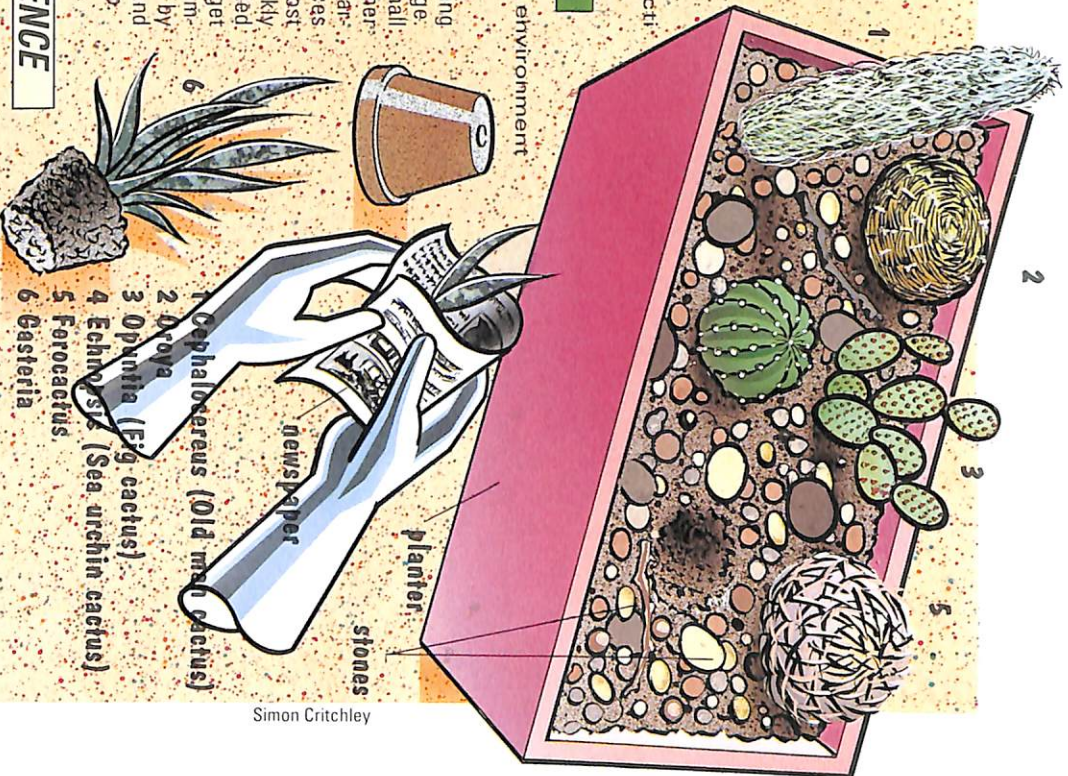
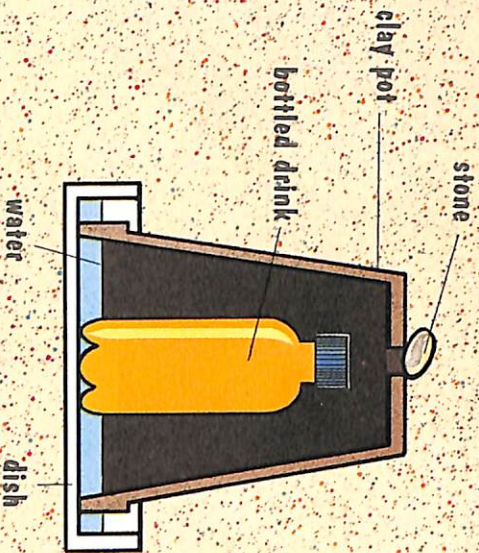
Fill a shallow clay container with a mixture of two-thirds potting compost and one-third coarse sand and grit, for good drainage. Decorate the surface with stones and twigs. Buy a variety of small cacti and other succulents. Alternatively, take cuttings from other cacti by gently prising away shoots growing at the base of the parent cactus. If you have to cut the shoots, leave the raw surfaces exposed to the air for a few days, then plant them in the compost mix, making sure the roots are covered. When handling a prickly cactus, protect yourself by wrapping the plant in a piece of folded newspaper. In the summer, place the container where it can get plenty of Sun, and water the plant moderately, allowing the compost to dry out between waterings. In winter, let the cacti 'rest' by keeping them in a dry atmosphere at about 5°C (but no lower) and water very sparingly – just enough to prevent them shrivelling up.

ADVENTURES IN THE WORLD OF SCIENCE

MAKE A 'GREEN' FRIDGE

1 2 3 4 5

You need a clay plant pot, a small stone, water and a flat-bottomed dish with a lip. Clean the clay pot and soak it in water overnight. Next day, pour cold water into the dish until it is half full and stand whatever you want to keep cool, such as a bottled drink, in the water. Cover the drink with the clay pot. Then place a small stone over the hole on the up-turned pot. The 'fridge' will keep its contents cool even when left in direct sunlight and will continue working until all the water in the dish has evaporated. The evaporating water keeps the clay pot cool, so the drink is insulated from heat outside the pot.

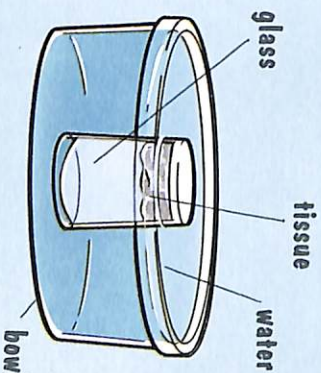


Simon Critchley

DRY TISSUE TRICK

1 2 3 4 5

You need a tissue or paper towel, a bowl, water and a glass. Fill the bowl with water. Crumple the tissue and press it firmly into the bottom of the glass. Turn the glass upside down and carefully lower it into the water. Push the glass all the way down to the bottom of the bowl, being careful to keep it as straight as possible. Lift the glass out and remove the tissue. It will have remained perfectly dry because the air pressure inside the glass is greater than the water pressure and so prevents any water from reaching the tissue.



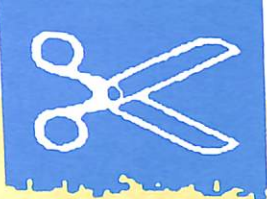
PROJECT INFORMATION

1 2 3 4 5

Each **QUEST** project and model has its own difficulty rating: 1 very simple, 2 simple, 3 intermediate, 4 advanced, 5 complicated.

WARNING!

Every care has been taken to ensure projects are as safe as possible. However, parents should supervise all projects. The publisher can accept no liability for injury.



MODEL

ASSEMBLY INSTRUCTIONS

1 2 3 4 5

You will need

Scissors • Ruler • Craft knife • Glue •
Thin string or thick thread

Before cutting out the pieces, score along all broken lines with a blunt edge and ruler to make folding and gluing easier. Study the ASSEMBLY DIAGRAM to see how the pieces fit together, and use the dotted lines as a guide for positioning.

NB Younger children will need supervision when using a craft knife.

To make up

Body

1 Cut out underside **A** and pierce a small hole with a craft knife or a compass point, where indicated. Cut out body side **B**, remembering to cut five slits marked by solid lines. Fold back tabs on inner curve of **B** and then glue tabs to edge of blank side of **A**, positioning **B** so that slits are nearer to wider end of **A**.

2 Repeat with body side **C**, gluing **C** into place opposite **B**.

Legs

1 Cut out hind walking leg **D**. Fold tab under flap and then slot flap through back slit in **B**. Fix flap in position by sticking front of tab on to floor of **A**. Repeat with other seven legs **E, F, G, H, I, J** and **K**.

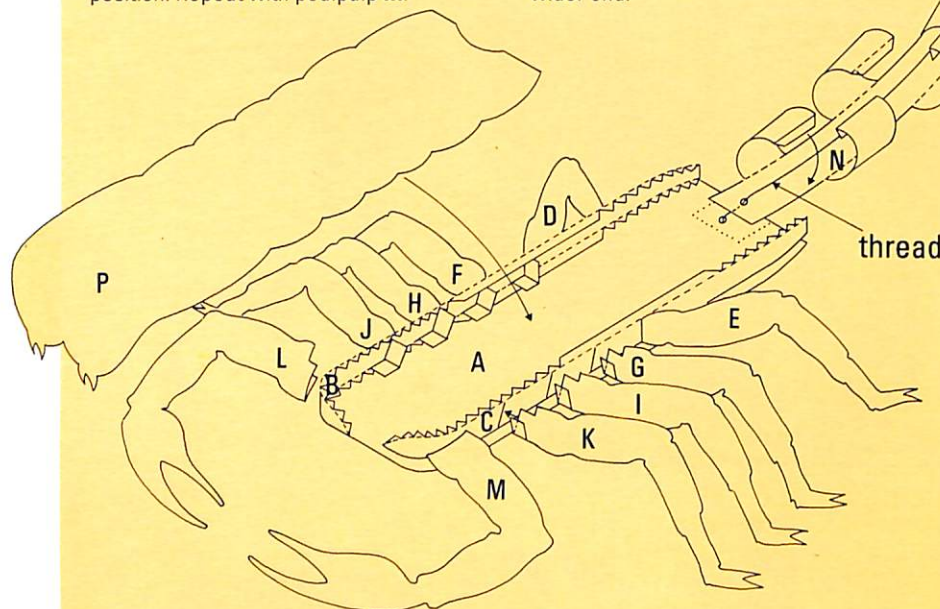
2 Cut out pincer, or pedipalp, **L**. Fold tab under flap and push flap through front slit on **B**. Allow tab to open, to secure pincer in position. Repeat with pedipalp **M**.



SCORPION

Tail and sting

1 Cut out tail-like structure **N** and pierce a hole where indicated. Glue into shape (see ASSEMBLY DIAGRAM), starting at wider end.



2 Cut out poison glands and sting **O** and make hole where shown. Push thread through **O** and tie knot at end of thread. Next, pass other end of thread through length of **N**. To stick sting in place, fold tab on **O** forward and glue just inside **N** (see ASSEMBLY DIAGRAM).

3 Glue **N** to **A**, following positioning marks. Make sure hole in **N** is directly over hole in **A**. Pass thread through hole in **N** and **A**.

To finish

1 To complete body, cut out forebody and hind body carapace **P**, spread glue on to tabs on **B** and **C** and stick **P** to **B** and **C**.

2 Bring tail up by pulling on thread. When a scorpion attacks, it swings its tail over its prey (often an insect) before administering a paralysing sting.

G NOWHERE

TEMPT ON THE DESERT FLATS

FAST



The land speed record is clocked over one measured mile (1.6 km). But an 8 km run up is required, plus several km to slow down. As the measured mile must be covered in both directions, so 8 km must be allowed each end.

GOOD DAY AT BLACK ROCK

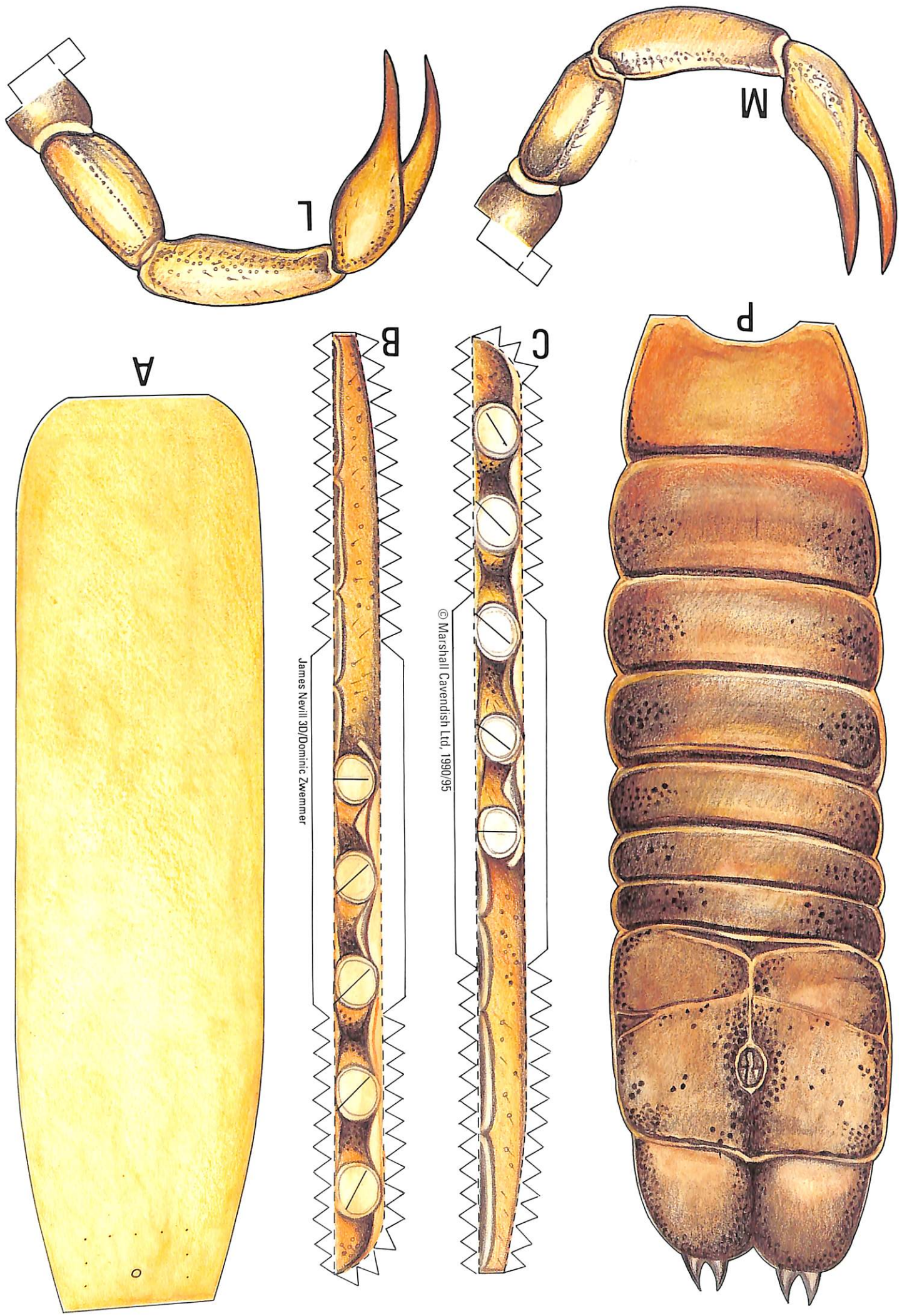
Land speed records are attempted and set in deserts because this is where the huge flat areas needed can be found. The weather is usually predictable and the air is hot and dry, which thins the air and cuts drag. This is vital at speeds approaching the speed of sound.

The current world land speed record was set in the Black Rock Desert in Nevada, USA, in 1983 by Richard Noble. Noble's team moved there after rain flooded the regular record-attempt site at nearby Bonneville Salt Flats in Utah. The Black Rock Desert had been used as a US Army gunnery range, but the only preparation of the surface allowed was the removal of debris. The tyre tracks of a Jaguar was used as a guide when local conservationists banned the use of the traditional black oil line.

Despite these handicaps, the car, Thrust 2, covered the measured mile (1.6 km) at an average speed of 1019.467 km/h.

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QUEST



SCORPION

